

# AGRICULTURAL HINTS

## DESTRUCTION OF INSECTS.

Texas Man Has Invented a Gas-Making Machine That Kills Parasites "on Sight."

When the plants in the little garden patch in the house garden begin to show the destroying effects of insects and worms, the gardener usually takes an old tomato can and a stick and gathers his first crop, which he proceeds to destroy forthwith. Only as he continues to harvest these preliminary pestiferous growths has he any assurance that he will be able to gather things good to eat later in the season. But the garden is comparatively small, and little time is required to keep the bugs and worms in check. It is only when the farmer begins his battle with the inhabitants of a potato patch covering acres of



NOXIOUS GAS KILLS PESTS

ground that he comes to realize how powerful an enemy he is fighting. The army is so large that he has no choice but to fight it wholesale. Instead of dealing with each one of the little pests individually, as in the garden. The common method of work is to apply paris green, hellebore or some other poison which can be mixed in liquid form and sprinkled on the plants. It is well known that many bugs escape this poison and continue to live and breed even when the plants are dosed several times during the season. It is to be hoped that the new apparatus which we show in the illustration will prove more effective and subject the bugs to a treatment which it will be impossible for them to withstand. In this machine there is a gas-producing apparatus, designed to generate a large quantity of noxious fumes. These gas is stored in the reservoir on the carriage, and the latter is then driven over the field lengthwise of the rows of plants. It will be seen that the semi-circular shape of the reservoir enables them to nearly inclose the plant growths for a considerable space of time while the carriage is being drawn along. The gas in storage is poured from the front of the hooded portion, and surrounds the plant completely for a period long enough to kill all insects which are harbored therein.—Louisville Courier-Journal.

## REAL HOME OF BLUEGRASS.

It Was First Discovered in Indiana and Kentucky Got It from the Hoosier State.

"I notice by the papers that somebody in the southern part of the state wants to know where bluegrass first started," said Prof. John Collett, former state geologist. "A great many people contend that it was first found in Kentucky, but this is not so. Bluegrass is a native of the Wabash valley, in Indiana. It was found by William Henry Harrison's troops during that solemn march to Tippecanoe in 1811. Harrison gathered a small army at Ohio Falls and started north. At Vincennes the gallant heroes realized that they could not go 200 miles up the Wabash without feed for their horses. Gen. Harrison had two crates of corn at Terre Haute, and persuaded the men to go on. As they came on with hungry horses and scant feed they found the ground covered with bluegrass.

"Six miles west of Newport, on the Collett farm, was found a bountiful supply of bluegrass. Some places in the bottom it was growing three feet high, and such feed had never been heard of by the Kentucky soldier. At State Line City more bluegrass was found, and from there to Tippecanoe the whole line of march was covered with bluegrass.

"The seed was carried back to Kentucky and sown there, but they could not make it thrive alone in the warm soil, and it had to be sown with oats and rye. Mr. Sandusky, the father of the present family of that name, told me in an early day that no bluegrass grew in Kentucky until after it was imported from Indiana. Tom Downing, of Terre Haute, was an ardent admirer of Henry Clay, and once went to visit him at his home near Ashland, Ky. After seeing the fine farm well set in bluegrass, Downing suggested that Mr. Clay let him have some of the seed to take back to Indiana.

"Tom, don't make a fool of yourself," said Clay, "the grandfathers of Kentucky bluegrass is growing around your house and in the fence corners of your fields. We got the seed from Terre Haute and the middle Wabash and after a hard struggle got it to grow here in its present luxuriantness."—Indianapolis Journal.

## TWO STRAWBERRY PESTS.

They Are Called False-Worm and Leaf Roller and Are Very Hard to Exterminate.

The Missouri station last year conducted some very interesting experiments and investigations in the destruction of the two worst strawberry pests in this country, the false-worm and the leaf-roller. The first is found to have but one brood which hatches from the time the first blossoms appear till the berries are ripe. These can easily be held in check by dusting or spraying about the beginning and middle of this time. For the home patch or home market, it is best to dust the patch with pure, fresh pyrethrum, which can be done at any time, as it is absolutely harmless. This is, however, the most expensive and least effective of all the known remedies. For commercial growers, the best method is to use fresh powdered white hellebore in the proportion of one pound to every three gallons of water. This should be sprayed on before the berries are a third ripe, so that the rains and dews will have abundant time to dissipate any possible harmful effects from it.

The leaf-roller probably has only two broods in the north, but in southern Missouri it has three. This pest has so many ways of protecting itself that no kind of sprays or ordinary remedy does any good. Fortunately, however, fire doesn't hurt the plants any and does dispose of them very effectively. The plants should be mowed, dried, raked up on the rows and if necessary assisted by the addition of dry straw and the whole burned when the wind is in the right direction. In the south this should be done either in the middle of July, to catch the second brood, or in the middle of September, to catch the third. The plants will at once put forth a set of fresh green leaves free from pests of all kinds; the next year's crop will generally be remarkably successful.

## PLANT LICE IN ORCHARDS.

They Are Exceedingly Hard to Kill and Ordinary Sprays Have Little Effect on Them.

Although plant lice probably occur in orchards, they are very seldom found in such numbers as to be really troublesome or destructive. A noted exception was the past season in New York state, probably on account of the unusual weather conditions, which seem to have prevented the usual development of their natural enemies, the lady beetles. There are three kinds of plant lice that may occur on apple trees, namely, Fitch's apple aphid, the Rosy apple aphid and the Apple Leaf aphid. The last is the only one that lives on the apple all the year round and is doubtless responsible for the remarkable amount of damage done in western New York during the past season.

As these insects feed somewhat after the manner of a mosquito, by sucking up the internal juices of the plant through a long threadlike bill, therefore the ordinary poison sprays, such as Bordeaux mixture or paris green, have little or no effect on them. They should rather be smothered and drowned in emulsions of kerosene, whale oil soap or tobacco. A spraying of this kind should be extremely thorough, as the insects are not killed unless hit with the spray, and they reproduce very rapidly indeed.

## VERY CHEAP STEPLADDER.

Convenient in the House During Cleaning Time and Out of Doors All the Time.

The illustration shows a cheap, handy stepladder. It need cost but very little. It is just five feet high, and is most convenient in the house during cleaning time, and out of doors at all times. During the fruit-picking season it is almost indispensable. The ladder proper is made of one by six boards, with the steps of the same material. The two opposite legs are two by two, properly braced. The board on the top should be of good inch boards with at least two cleats underneath. — Orange Judd Farmer.

**New Lime and Oil Spray.**  
A Delaware fruit grower, William Dickson, has worked out a new formula for the destruction of the San Jose scale. He calls it lime oil. This new combination will doubtless be responsible for many changes in the use of both crude petroleum or refined oil. Mr. Dickson slacks ten pounds of stone lime with five gallons of refined kerosene oil, after which he adds 25 gallons of water; this gives him a 20 per cent. oil solution. It can be applied almost as easily as pure kerosene, does not injure the foliage and will kill the scale. It is much less trouble to make than the kerosene emulsion and more easily applied. — St. Louis Republic.

**How to Grow the Currant.**  
No other small fruit is so often found in the home garden and so often general neglect, and yet that under this condition produces fruit of some value, remarks Prof. Maynard. When well grown in a rich soil and properly pruned the fruit is of large size and is produced in large quantities. It succeeds well under the shade of fruit or ornamental trees, if the soil is made rich. To obtain the largest and best fruit the old wood (that over three years old) is cut away as the large fruit is borne on canes two and three years old.

## THE PAST FISCAL YEAR.

Statement in Regard to Receipts and Disbursements.

Pensions Show An Increase of \$4,183,000 and Interest, Payments a Decrease of Over \$4,000,000, as Compared With 1903.

Washington, July 1. — Secretary Shaw Thursday gave out a statement showing the comparison between the estimates which he submitted to congress in his last annual report and the actual receipts and disbursements during the fiscal year, from which it appears that the actual surplus is only about three-fourths of a million less than the estimated surplus when account is taken only of expenditures which were considered in submitting the estimate. In the estimate submitted to congress no account was taken of possible expenditures in securing the right of way for the isthmian canal, nor of the loan of \$4,600,000 to the Louisiana Purchase Exposition Co. The estimate was based also on the then existing laws. These were subsequently modified by the ratification of the reciprocity treaty with Cuba. The secretary calls attention to the fact that the surplus would have been several millions in excess of his estimate but for the reciprocity arrangement with Cuba which reduced the revenues from \$6,000,000 to \$8,000,000.

The available cash June 30, 1904, amounts to \$166,965,872, as compared with the fiscal year ended June 1, 1903. These figures show increases and decreases in receipts as follows:

Customs, decrease, \$21,823,235; Internal revenue, increase, \$2,320,449; miscellaneous, increase, \$1,802,014.

The civil and miscellaneous expenditures for the year just ended exceeded those for the year 1903, including the payments on account of the Panama canal purchase and the St. Louis exposition loan by \$67,813,602. The expenditures on account of the war department were \$3,211,897 less than for 1903, and the expenditures on account of the navy were \$29,060,271 greater than for 1903.

Pensions show an increase of \$4,183,000 and interest payments a decrease of over \$4,000,000 as compared with 1903.

Commissioner Yerkes, of the internal revenue bureau, Thursday made the following statement:

The total receipts of the internal revenue bureau for the fiscal year closing Thursday evening will be about \$233,500,000. This shows an excess of collections over the fiscal year ending June 30, 1903, of some \$3,000,000. The rates of taxation on various articles paying an internal revenue tax being the same this fiscal year as during the year which ended June 30, 1903, and the amount of tax collected being in excess by some three and a half millions of dollars, does not indicate that the business movements of the country and its commercial transactions are decreasing, or that we are suffering from general business depression, as claimed by some.

## CUSTOM HOUSE STATISTICS.

The Amount of Duties Collected For the Year Was \$170,972,579.

New York, July 1.—A summary of operations at the custom house for the fiscal year ended Thursday shows that the number of entries was 366,893 as compared with 361,568 for the previous fiscal year. The amount of customs duties collected for the year was \$170,972,579, as compared with \$180,970,144 in the previous year. The year 1902-3 was a high record year in volume of customs receipts. The year just ended is second highest.

**Wild Texas Bull Creates a Panic.**  
Pearla, Ill., July 1.—A wild Texas bull escaped from the stock yards in the lower end of the city and dashed through the streets with several stockmen in pursuit. It entered the wholesale drugstore of Colburn, Birks & Co. The clerks, panic-stricken, fled from the building. The animal destroyed considerable property and finally leaped through a window 15 feet from the ground, sustaining injuries which caused death.

**Present For Attorney General Knox.**  
Washington, July 1.—Solicitor General Hoyt, in behalf of the official and clerical force of the department of justice, presented a beautiful library clock to Attorney General Knox, who recently resigned.

**Parcel Post Agreement Signed.**  
Washington, July 1.—Postmaster General Payne and Mr. Takashira, the Japanese minister, Thursday signed a parcel post agreement between the United States and Japan. The agreement will take effect August 1.

**Went to Their New Summer Home.**  
North Sandwich, N. H., July 1.—Mrs. Grover Cleveland and her children arrived at their new summer home here Thursday night. Mrs. Cleveland said that the date of Mr. Cleveland's arrival was uncertain.

**The New Governor of Porto Rico.**  
San Juan, P. R., July 1.—Judge Beckman Winthrop, new governor of Porto Rico, accompanied by his wife, arrived here Thursday on the steamer Caracas from New York. Large crowds gathered at the dock and palace to meet him.

**Charged With Bribing a Witness.**  
St. Louis, July 1.—Col. Edward Butler, a prominent local politician, came into court Thursday afternoon in answer to a bench warrant charging him with bribing a witness. He was released on a bond of \$10,000.

## NECESSARY EXPENDITURES FOR ONE TERM—12 Weeks.

SCHOOL EXPENSES—due first day of term.

College	Acad. & Ap. Sci. Sch.	Model Sch.	Lat. Norm. Sch.	Normal Sch.	High Sch.
Incidental	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Free	25	25	25	25	25
Hospital Fee	25	25	25	25	25
Class paper	25	25	25	25	25
Estimated	2.25	2.25	2.25	2.25	2.25
Total school expenses	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50

For piano, stenography and other extras are Special Expenses below.

**LIVING EXPENSES**—Board due in advance by month. Room rent by term.

Board in the village—allowed in approved places—varies in price according to accommodations furnished.

Adding these living expenses to school expenses we find:

To be paid the first day (including the \$1 deposit) in College Department \$20.00, Academy and Latin Normal \$18.20, Applied Science, Normal and A Grammar \$17.20, Model Schools \$15.20. In winter \$1.80 more for each. No student can be received who fails to make this advance payment.

Total Ordinary Expenses for 12 Weeks are set to be in College Department \$30, Academy and Latin Normal \$29, Applied Science, Normal and A Grammar \$27, Model Schools \$25. In winter these dollars more for each.

Students paying board and room rent in full for a term at the beginning receive a discount of 50 cents.

Students duly excused before the end of a term receive back an equitable portion of the money they have advanced.

**SPECIAL EXPENSES.**

Piano, Vocal or Special Theory (24 lessons, 1 hour class of three)	\$7.00
Organ, Violin, etc. (14 lessons, class of three)	\$6.00
Stenography or Typewriting, per term	\$6.00
Class work in Harmony	\$2.00
Use of Piano or Typewriter (1 hr. a day, 10 weeks)	\$2.00
Use of organ (1 hr. a day)	\$2.00
Rent of Music Library, per term	\$1.00
Chemical Laboratory, according to material and breakage, about	\$1.00
Physical and Microscopical Laboratories, per term	\$1.00
Materials for drawing, per term	\$1.00
Examination, except on appointed days	\$1.00
Graduation Fee, with degree, with diploma (100)	\$5.00

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The School is endorsed by Baptists, Christians (Disciples), Congregationalists, Methodists, Presbyterians, and good people of all denominations.

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To Old and New Subscribers to The Citizen.

We are especially anxious that every old subscriber to THE CITIZEN should settle up his arrears and pay his subscription in advance on or before

June 8th, 1904, Berea College Commencement Day.

We are equally anxious to add a large number of new subscribers to our list on and before that date. In order to accomplish our purpose we make the following offer which is the most liberal ever made by any newspaper.

## For Every \$1.00 You Pay Us We Will Give \$2.00 Back.

Not in cash to be sure, but in its equivalent. In other words, we credit your subscription account with each \$1.00 paid and give you the same amount in subscriptions to Newspapers and Magazines selected from the following list:

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1. New York Tribune Farmer	\$1.00	5. The American Home Monthly	\$ .50
2. The Toledo Blade	1.00	6. The American Farmer	.50
3. The St. Louis Star	1.00	7. Vicks Family Magazine	.50
4. The Louisville Herald	1.00	8. Selected by us	.50

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No. 5 is a high grade beautifully illustrated family story magazine. 16 pages

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**To Old Subscribers.**

If you send or pay us \$1.00 on your subscription account on or before Commencement Day select \$1.00's worth of subscriptions from the above list; if \$1.50 then select \$1.50's worth; if \$2.00 then \$2.00's worth of subscription, and so on.

**To New Subscribers.**

One dollar will pay for The Citizen one year and for a year's subscription to a \$1.00 newspaper or to two magazines from our list; \$2.00 will secure The Citizen for two years and two \$1.00 newspapers or a \$1.00 newspaper and two magazines or four magazines, each for one year, and so on.

**To Both Old and New Subscribers.**

If the newspapers or magazines you want are not on our list ask us about them and we will arrange with you to substitute them. Our special price will surprise you.

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Answering this advertisement will, in addition to \$2.00 for \$1.00, as above receive an INTERESTING and VALUABLE 125-PAGE BOOK. Be among the first 50 to send in your money and get this good book as an additional token of our interest in you and our good-will toward you.

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